

# Achieving Integration in Mixed Methods Designs: An Overview

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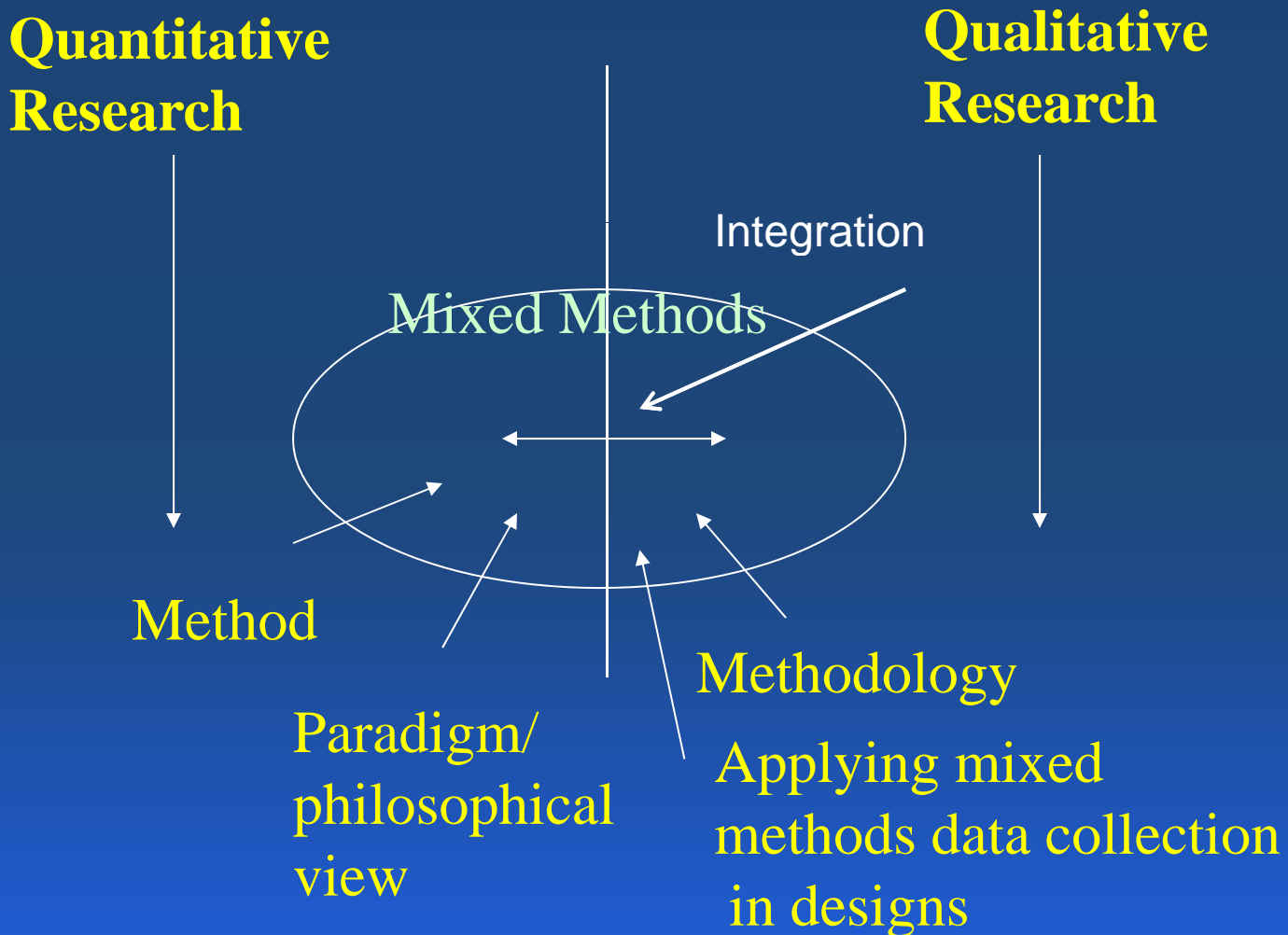
# Purpose of Overview

- To discuss several topics about integration in mixed methods research:
  - How is integration being defined?
  - Why is it important?
  - Where does it occur in the process of research?
  - What are some procedures for integrating (within a design)?
  - How is integration written into (or published) in a mixed methods study?
- To provide a foundation for viewing integration in practical examples of mixed methods investigations
  - Dr. Curry – sequential design
  - Dr. Fetters – convergent design
  - Drs. Duan/Newman – mixed sequential/convergent design

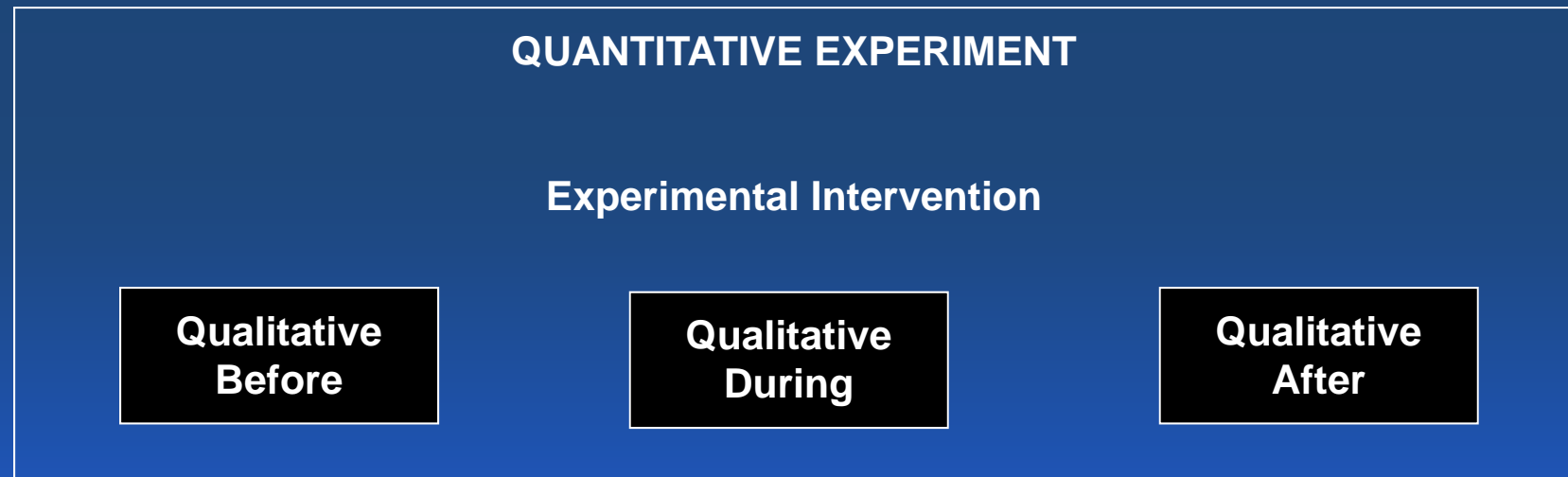
# What do we know about “integration” in mixed methods research?

- A confusing concept
- A concept that is central to the uniqueness of mixed methods research
- An concept that is often not realized in mixed methods projects (e.g., see Bryman’s, 2006, UK study)
- A concept that can be approached by investigators in different ways

# What is “integration” in mixed methods research?



# Integration through combining “design” with “methods”



# Integration by combining “paradigms or philosophies:” A philosophical perspective

Post-positive philosophy



Phase One  
Survey Project



Constructivist philosophy



Phase Two  
Focus Group Interviews

Pragmatism philosophy

Quan  
Research

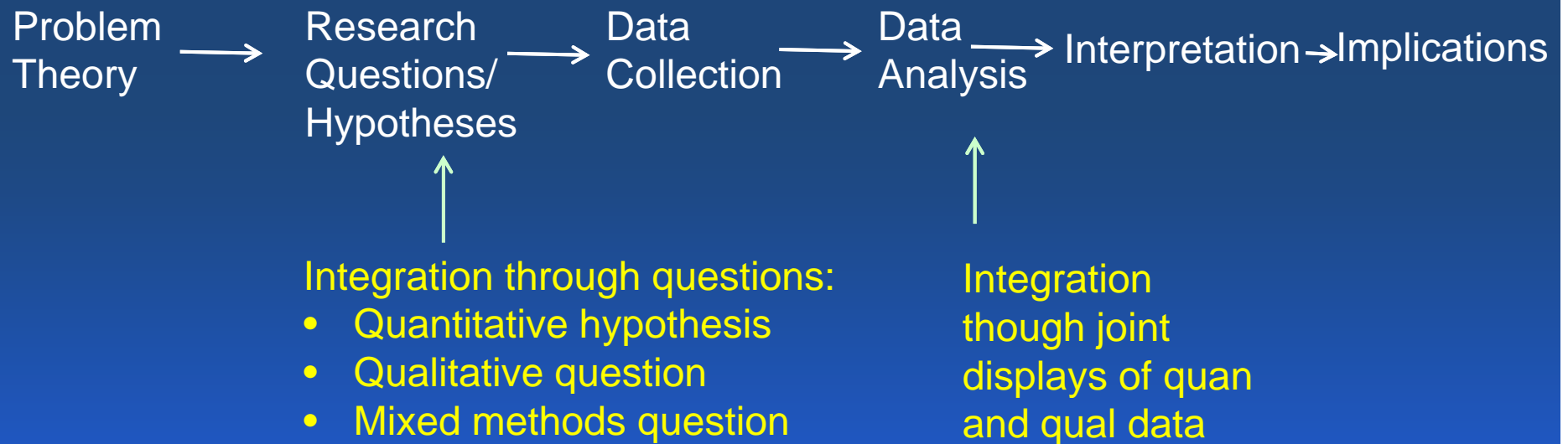
Qual  
Research

Merged  
Data

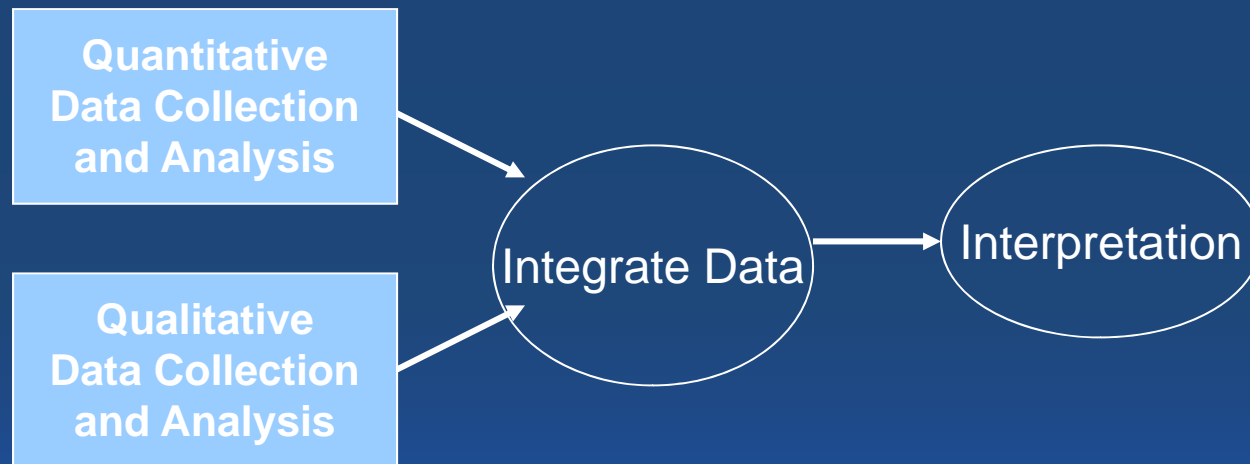


# Integration across the multiple phases of the research process: a “methodology” perspective

The process of research (scientific methods)



# Integration of data collection and analysis: a “methods” perspective





## Creswell's six core characteristics of mixed methods research (a methods orientation)

- The collection of both qualitative and quantitative data (open- and closed-ended data) in response to research questions
- The analysis of both qualitative and quantitative data
- Rigorous procedures for the qualitative and quantitative methods
- The **integration** of these two (or more) data sources (merging, connecting, embedding)
- The use of a specific mixed methods design that involves a **concurrent** or **sequential** integration or both (and equal or unequal emphases)
- An approach to research that can include a philosophical foundation or theoretical orientation

# Why is integration important?

- The basic purpose of mixed methods research is to integrate the quantitative and qualitative data to draw on the strengths of each
- At some step in the process of research, the investigator will integrate the data and results
- This integration involves the technical skill of knowing how to integrate numeric information with text or image information

# Where does integration occur in a mixed methods study? (Creswell & Plano Clark, 2011)

Integration

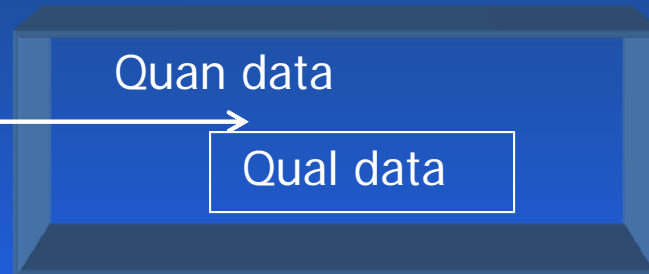
**Converge data:**



**Connect data:**



**Embed the data:**



# What are the primary procedures for integration?

- Data comparisons (concurrent designs)
- Data transformations (concurrent designs)
- Data building on (or extending) data (sequential designs)

# Integrating with side-by-side comparisons in discussion in Convergent Design

Present QUAN result	<p>Overall, certain elements were consistently considered to have a great or considerable impact on coalition success, regardless of how success was defined. "Commitment to goal/cause/issue" (95 percent) and "competent leadership" (92.5 percent) were the top two elements regardless of definitions of success, followed by "commitment to coalition unity/work" (87.5 percent), "equitable decision-making structure/process" (80 percent), and "mutual respect/tolerance" (77.5 percent). Additional important elements of success were having "a broad-based constituency" (75 percent), "achieving interim victories" (72.5 percent), "members' continued contributing resources" (67.5 percent), and "shared responsibility and ownership" (65 percent). Note that the tangible elements relating to resources (staffing and funding) were given much less import overall. Only three external factors were deemed important by most coalition leaders: "the right timing" and selecting a "critical issue" (at 87.5 percent each), and "appropriate target" (71.5 percent). Whereas coalition leaders cannot control these factors as much, it is clear that these factor into the decision-making processes with respect to the framing of goals and strategies:</p>
Present corresponding QUAL result and relate to QUAN result	<p>The resources amassed by our coalition are valued and respected. They [the members] all possessed tremendous knowledge about their subject areas and about the political process. Being recognized as experts gives the coalition leverage and clout with the target.</p>

SOURCE: Mizrahi and Rosenthal (2001, p. 70).



# Another example of side-by-side comparison

QUAL results		QUAN results
Comparison of Information from Interview and Survey Data: Examples of Four of the Eight Themes		
Theme	Face-to-face Interviews	Telephone Survey
Major Topics	<p>1. How and why child was placed in program</p> <p>Two aspects of decision:</p> <ul style="list-style-type: none"> <li>(1) Community-based "inclusive" option</li> <li>(2) Specific child care center</li> </ul> <p>Factors affecting choice:</p> <ul style="list-style-type: none"> <li>• Visited and liked classroom &amp; teacher</li> <li>• Convenience of location</li> <li>• Flexibility in hours</li> <li>• Good reputation of center</li> <li>• Concern if center would accept child because of behavior</li> </ul>	<p>Parents' most important reasons for using program:</p> <ul style="list-style-type: none"> <li>• Offers special education services or therapies</li> <li>• Provides opportunities for child to learn</li> <li>• Provides opportunities to play with other children</li> </ul>
	<p>2. Program's appropriateness for child</p> <p>In successful placement, there is a "match or fit" between child's and family's needs &amp; program. Factors affecting match or fit:</p> <ul style="list-style-type: none"> <li>• Acceptance by staff &amp; children</li> <li>• Likes activities and routines for child</li> <li>• Child likes program</li> <li>• Sees benefits or specific improvements</li> </ul>	<ul style="list-style-type: none"> <li>• 90% said very important for child to be in inclusive program</li> <li>• 80% indicated child usually or always receives special services needed</li> <li>• 86% were satisfied with way in which child's educational goals were made</li> </ul>
	<p>3. Helpful and unhelpful players</p> <p>Characteristics of helpful players:</p> <ul style="list-style-type: none"> <li>• Consistent presence over time &amp; settings</li> <li>• Personal investment in child</li> <li>• Provides different types of support</li> <li>• Dependable source of information about child</li> </ul> <p>Characteristics of unhelpful players:</p> <ul style="list-style-type: none"> <li>• Minimize or disregard family concerns</li> <li>• Inadequate communication</li> </ul>	<p>The most helpful supports were:</p> <ul style="list-style-type: none"> <li>• Other family members at home</li> <li>• Child's teachers</li> <li>• Other professionals in community and at child's program</li> </ul>
	<p>4. Child's participation in family and community activities</p> <p>Factors that affect participation:</p> <ul style="list-style-type: none"> <li>• Parent's safety concerns about child</li> <li>• Parent's perception of what is expected of child's behavior</li> <li>• Lack of other young children in immediate neighborhood</li> <li>• Family's own style, schedule, and how it participates in the community</li> </ul> <ul style="list-style-type: none"> <li>• An extended family system was so strong a part of family's culture that family did not need or choose to participate much in the community</li> <li>• Young age of children</li> </ul>	<p>Limitations on participation:</p> <ul style="list-style-type: none"> <li>• Child's language skills</li> <li>• Family's schedule and time constraints</li> <li>• Attitudes of others towards child's disability</li> <li>• Child's behavior</li> <li>• Lack of other children to play with in neighborhood</li> </ul>

SOURCE: Li et al., 2000, Table 2, pp. 124–125. Reprinted with permission of SAGE Publications, Inc.

# Integration through crosstabs of quantitative categorical variable with qualitative themes in Convergent Design

Dimension: QUAL themes

Top Three Strengths from the Gallup StrengthsFinder	Qualitative Themes		
	Relationship-Building Strategies	Strengths Awareness	Relationship Outcomes
Input ( $n = 8$ )	24 Chilling out. Talked a little bit.	15 Talked about results. Talked about the awkwardness of strengths terminology.	55 We saw an increase in comfort. Conversations got noticeably easier.
Relator ( $n = 6$ )	32 "How is your week going" conversations. Hot-button conversations.	13 Talked about strengths in a casual manner. Discussed being positive, in a good mood.	13 A special relationship developed between us. We went through an early period of discomfort. Early conversations were superficial.
Achiever ( $n = 5$ )	22 Talked about our lives. Trusted me with personal information.	3 It was cool to hear about other people's strengths. I notice my strengths in everyday life. Watching a movie helped us to reflect on strengths.	3 The early project jitters are going away. We're not hanging out because we have to. We learned new things about ourselves.

Dimension: QUAN categories

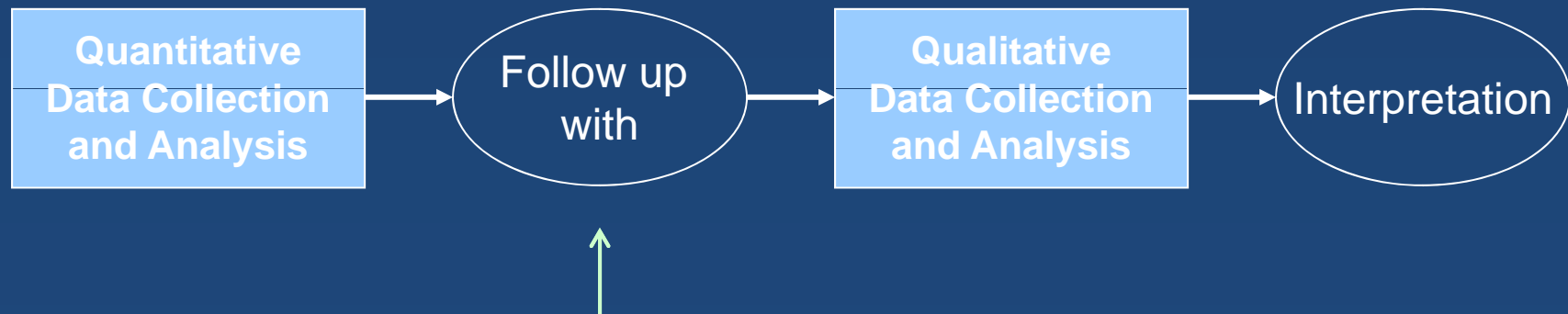
SOURCE: Adapted from the database in McEntarffer (2003). Used by permission.

# Integration through data transformation in Convergent Design

- First qualitative data (e.g., interviews) are collected.
- Then, the data are coded (data analysis)
- Then, the codes are counted (transforming the qualitative data into quantitative data).
- Then, the counts are compared with a quantitative database.



## Integration by having one dataset build on the other in a sequential design



Qualitative data collection **builds** on quantitative results:

Options:

- Followup on significant results
- Followup on outliers, extreme cases
- Followup on non-significant results
- Followup on important demographics

## What are the multiple ways that integration might be incorporated into a mixed methods study?

- Integrate in the **data collection** (e.g., to a quantitative survey is added qualitative open-ended questions)
- Integrate in the **data analysis** (e.g., quantitative categorical data are arrayed in a matrix with qualitative themes)
- Integrate in the **interpretation or discussion** phase (e.g., a side-by-side comparison of the quantitative and qualitative results)
- Integrate at **multiple steps** in the research process (e.g., in an intervention trial, qualitative data helps to inform recruitment of participants, qualitative data also helps to explain the mechanisms at work in the outcomes)
- Integrate at **multiple phases** in a project (e.g., in a multi-phase study to have one study build on the other toward a common study aim of the project)

# What examples exist to illustrate integration in dissemination and implementation health research?

- To illustrate different perspectives on integration
- To illustrate where integration occurs in a mixed methods study
- To illustrate the types of integration procedures
- To illustrate where integration can be written into a mixed methods study
- To illustrate integration within dissemination and implementation research

## References

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